

REMARKS

Reconsideration and allowance are respectfully requested.

Applicant appreciates the Interview courteously granted by Examiner William McCalister to Meera Narasimhan on January 14, 2010.

This Response addresses all the issues in the office action and those discussed during the Interview.

Drawings:

Claim 23 has been cancelled as above. Newly added claim 33 includes the subject matter cancelled from claim 28.

Element 21 correctly points to the bevel in amended Figures 3 and 4.

Amended Figures are being submitted in the attached Replacement Sheets addressing all the Drawing related issues in the office action.

Claim Rejections under 35 USC 112, second paragraph:

The attached amended Figure 1 corrects the lead lines for reference numerals 7 and 8. Element 7 is the spring disk portion of the top hat brim 29 on which the spring 5 rests as described in the original specification. Entry of this amendment should obviate the Examiner's requirement that "7" be eliminated from all Figures.

The lead line for element 8 now correctly points to the movable closure, which comprises the top hat 28, top hat brim 29, and spring disk 7.

Claim 15 has been amended as above to change the term "coupling."

Antecedence for the amendments can be found in the original specification, claims, and the original drawings.

No new matter has been added by the above amendments or by the present response.

Entry of all the amendments and withdrawal of the rejections are requested.

Claims 15-18 and 22-27 are patentable under 35 U.S.C. 103(a) over de Launay (US Patent 4,256,137) in view of Albertson (US Patent 6,290,235).

The present invention, as defined in claim 15, is a unique pressure limiting valve device for protecting hydraulic pressure packs against an overload and hydraulic props against falling rocks in underground mining and tunnel construction. The valve device comprises pressure limiting valve which includes a valve housing, a consumer connection coupled to the valve housing, a pressurized fluid outlet in the consumer connection for allowing flow of pressurized fluid, and a flow gap between the pressurized fluid outlet and the consumer connection. A movable closure separates the pressurized fluid outlet and the consumer connection and a valve spring in the valve housing exerts force such that the movable closure is movable against the force exerted. An inventive seal on the movable closure secures the flow gap with the valve housing and the consumer connection remaining connected when the overload occurs for discharging the pressurized fluid. The seal comprises a groove and a seal ring with limited flexibility disposed in the groove without pre-stressing. The seal ring has a side facing the connection, a second side opposite the first side, top side and bottom opposite sides between the first side and the second side. The groove has a unique shape for allowing partial or total flow of the pressurized fluid into the groove and around the seal ring, such that the seal ring is displaceable towards the connection due to flow of the pressurized fluid on sides of the seal ring

including the second side away from the first side. Dependent claims add further patentable features to claim 15.

Nothing in the references of record describes, teaches or suggests those claimed features.

De Launay relates to a check valve in a fluid flow line in which during the opening pressure the fluid passes by the sealing ring (resulting in a leaking valve). In de Launay, the fluid cannot enter the groove and flow around the sealing ring to displace the ring against the closure. The pressure of the spring presses the sealing ring onto the sealing surface and there is no displacement of the ring by the flow. Moreover, de Launay has nothing to do with a pressure limiting valve.

The Examiner relies on Albertson to fill the gap in de Launay. However, the modification proposed by the Examiner will harm the de Launay device and change the operating principle of de Launay. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

Albertson relates to a sealing system with first and second seal members, with the first member having spaced apart first upper and lower end faces disposed in respective glands. The Examiner relies on Figure 9 and deems element 16 to be “a small square seal ring”. Applicant has reviewed Albertson’s Figure 9 as well as the entire description but finds no basis for the Examiner’s contention. Element 16 refers to “bore annular surface” in Figure 9. In columns 1 and 7, 16 refers to “a bore”. Thus, Applicant is unable to adequately rebut this rejection because the office action rejects the claims based on an element reference that is not found in Albertson.

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

Thus, de Launay and Albertson do not describe, teach, or suggest the claimed invention. Since claim 15 is patentable claims dependent thereon are also patentable over de Launay and Albertson.

Claims 19-21 and 28-33 are patentable under 35 U.S.C. 103(a) over de Launay (US Patent 4,256,137) in view of Albertson (US Patent 6,290,235) further in view of Dams (EP 0096303).

As pointed out above de Launay, with or without Albertson, does not teach or suggest the claimed invention. Therefore, any further combination of de Launay will also lead away from the present claims.

The Examiner relies on Dams to fill the gap in de Launay and Albertson. However, there is no motivation, suggestion or any hint within the references providing a basis for the modification proposed by the Examiner, which stems from hindsight reconstruction.

Dams provides a seal to be passed over by the closure device of a valve, typically a valve piston movable in a piston bore, which is exposed to high loads because the closure device is pressurized by the compressed pressurized fluid and yet has to ensure overall sealing of the system. Thus, the seal is deformed in a way that it projects into the flow gap between the closure and the fixed connection. This exposes the seal to severe stress and limits the life of the seal. The present invention precisely seeks to solve the problems that exist with the seals such as that of Dams. The Dams problems cannot be resolved by reducing the thickness of the O-ring because hydraulic pressure in the groove acts in the direction of the flow gap and is expected to act in that direction because the closure is the objective of the deformation. See, for example, Dams' Figure 3. Obviousness is tested by what the combined teachings of the references would have suggested to those of ordinary skill in the art. It cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Teachings of references can be combined only if there is some suggestion or incentive to do so. *In re Fine*, 5 USPQ2d 1596, 1599 (Fed. Cir. 1988).

Moreover, the rejections do not factor in the unique feature in the claims of the seal ring being disposed in the groove without being pre-stressed. Dams teaches away from the claimed invention by expressly teaching that the O-ring is "pre-tensioned" (see, for example, claim 2). Dams provides that the ring is ductile so that it can position itself into the gap 28 (see, for example, page 13 line 20 onwards). Dams teaches away from any material entering the gap 28 and flowing behind the ring. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

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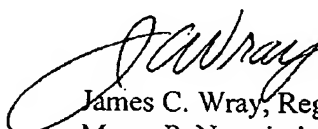
Thus, de Launay, Albertson and Dams do not teach a combination and even if combined they teach away from the claimed invention described in claims 19-21 and 28-32. Therefore, the claims are patentable over the references.

The objective evidence in the present application dictates a finding of non-obviousness as required under 35 U.S.C. 103(a).

CONCLUSION

Entry of the amendment and reconsideration and allowance of all claims are respectfully requested.

Respectfully,



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